

Atty. Dkt. No. 032931-0256

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-43 (canceled)

1 Claim 44. (currently amended): An isolated nucleic acid molecule which encodes the polypeptide SEQ ID NO:2.

2 Claim 45. (currently amended): An isolated nucleic acid molecule comprising the nucleic acid sequence SEQ ID No: 1.

3 Claim 46. (previously presented): An isolated nucleic acid molecule which is anti-sense to the nucleic acid molecule of claim 44.

4 Claim 47. (currently amended): An isolated nucleic acid molecule which encodes a fusion protein, said fusion protein comprising [[a]] the polypeptide encoded by the nucleic acid molecule of claim 44 and a second polypeptide.

5 Claim 48. (previously presented): The nucleic acid molecule of claim 47 wherein the second polypeptide is a heterologous signal peptide.

6 Claim 49. (previously presented): The nucleic acid molecule of claim 47 wherein the second polypeptide has adjuvant activity.

7 Claim 50. (previously presented): The nucleic acid molecule of claim 44, operably linked to one or more expression control sequences.

8 Claim 51. (currently amended): A vaccine vector comprising the a-polypeptide-encoding nucleic acid sequence selected from any one of:

(i) SEQ ID No: 1; and-or

(ii) a nucleic acid sequence which encodes the polypeptide of SEQ ID NO:2;

wherein the nucleic acid sequence is capable of being expressed.

Atty. Dkt. No. 032931-0256

9
Claim ~~52~~ (currently amended): A The vaccine vector of claim ~~51~~ comprising a hybrid gene, wherein the hybrid gene encodes a fusion polypeptide, wherein the fusion polypeptide comprises the polypeptide of nucleic acid encoding a fusion protein, wherein the fusion protein comprises:

(a) ~~a first polypeptide whose sequence is set forth in~~ SEQ ID No: 2; and

(b) ~~a second heterologous~~ polypeptide;

wherein the hybrid gene ~~nucleic acid encoding the fusion protein~~ is capable of being expressed.

10
Claim ~~52~~ (previously presented): The vaccine vector of claim ~~52~~ wherein the second polypeptide is a heterologous signal peptide.

11
Claim ~~54~~ (previously presented): The vaccine vector of claim ~~52~~ wherein the second polypeptide has adjuvant activity.

12
Claim ~~55~~ (previously presented): The vaccine vector of claim ~~51~~ wherein the nucleic acid is operably linked to one or more expression control sequences.

13
Claim ~~56~~ (previously presented): The vaccine vector of claim ~~51~~ wherein the polypeptide-encoding nucleic acid is the first nucleic acid, and wherein the vaccine vector further comprises a second nucleic acid encoding an additional polypeptide which enhances the immune response to the polypeptide expressed by said first nucleic acid.

14
Claim ~~57~~ (previously presented): The vaccine vector of claim ~~56~~ wherein the additional polypeptide is a *Chlamydia* polypeptide.

15
Claim ~~58~~ (previously presented): A pharmaceutical composition comprising the nucleic acid according to claim ~~44~~ and a pharmaceutically acceptable carrier.

16
Claim ~~59~~ (currently amended): A pharmaceutical composition comprising a pharmaceutically acceptable carrier or diluent ~~suitable for use in a vaccine~~, and a nucleic acid molecule which encodes the polypeptide of SEQ ID NO:2; wherein the nucleic acid is capable of being expressed.

Atty. Dkt. No. 032931-0256

17
Claim 60. (previously presented): A unicellular host transformed with the nucleic acid molecule of claim 50. 7

Claims 61 and 62. (canceled).

Claims 63-78 (canceled)

8 Claim 79. (currently amended): A method for preventing or treating *Chlamydia pneumoniae* infection comprising administering to a patient an effective amount of:

- (a) the nucleic acid according to claim 44; 7
- (b) a vaccine vector wherein the vaccine vector comprises the nucleic acid according to claim 44; 1
- (c) a pharmaceutical composition comprising the nucleic acid according to claim 44 and a pharmaceutically acceptable carrier; or
- (d) [[a]] the polypeptide encoded by the nucleic acid according to claim 44 in the reading frame set forth in SEQ ID NO:2.

Claims 80-82 (canceled)

15 Claim 83. (previously presented): The vaccine vector according to claim 81 wherein the vaccine vector is expression plasmid pCAI764 as shown in Figure 3. 8

Claims 84-85 (canceled)

Claim 86 and 87. (canceled)

Claims 88-93 (canceled)